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Response to Office Action Dated 11/14/2005

REMARKS

1 A review of the claims indicates that:

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3 A) Claims 1—21 are currently pending.

4 B) Claims 5, 8, 9, 14, 15, 17 and 19—21 remain in their original form.

5 C) Claims 1—4, 6, 7, 10—13, 16 and 18 are currently amended.

6 In view of the following remarks, Applicant respectfully requests  
7 reconsideration of the rejected claims.

9 The §103 Rejections

10 Claims 1—5 and 7—21 stand rejected under 35 U.S.C. §103(a) as being  
11 unpatentable over U.S. Pat. No. 6,445,483, hereinafter “Takada” in view of U.S.  
12 Pat. App. No. 2001/0035999, hereinafter “Saito”. In response, the Applicant  
13 respectfully traverses the rejection.

14 Traversal of the §103 Rejections

15 Claim 1 recites a method of determining a start of a scan time in a laser  
16 scanning system utilizing a scanning reflector, comprising:

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- directing a laser beam toward a facet of the scanning reflector so as  
to be reflected by the scanning reflector;
- returning the laser beam reflected from the scanning reflector toward  
the same facet of the scanning reflector for at least one additional  
reflection from the scanning reflector;
- detecting the laser beam reflected at least twice from the same  
facet of the scanning reflector; and
- controlling the start of the scan time of the laser scanning system,  
responsive to the detection of the laser beam.

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23 The Applicant has amended Claims 1 and 11 to more particularly point out  
24 the claimed subject matter. In light of the claim amendments and the following

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1 arguments, the Applicant respectfully requests that the Section 103 rejection of  
2 Claims 1 and 11 be removed.

3 The Applicant observes that the Takada reference does not teach or suggest  
4 detecting a laser beam reflected at least twice from the same facet of the scanning  
5 reflector. This is clearly shown by the Applicant's disclosure, such as in Figs. 2—  
6 4 and other locations. For example, in Fig. 2, the beams 112 and 132 reflect off  
7 the same facet. In contrast, the Takada reference clearly teaches that the beam  
8 reflects off a first surface 4, followed by a second surface 5, of the rotating  
9 polygonal mirror 3. (See Takada, column 27 at lines 47—67.) By reflecting the  
10 beam off the facet twice, the Applicant is able to increase detection resolution (see  
11 Applicant's disclosure at page 5, lines 20—25). Accordingly, the Applicant  
12 submits that the Takada reference is deficient to sustain the Section 103 rejection,  
13 in view of the claim amendment.

14 The Applicant submits that the Saito reference fails to remedy the  
15 deficiency of Takada. In particular, Takada fails to teach or suggest detecting a  
16 laser beam reflected at least twice from the same facet of the scanning reflector.  
17 Referring to Saito, particularly at Fig. 1, it is clear that Saito does not disclose  
18 reflecting a laser beam off the same facet twice. Accordingly, Saito fails to  
19 remedy the deficiency of Takada. Thus, neither reference teaches or suggests  
20 detecting a laser beam reflected at least twice from the same facet of the scanning  
21 reflector. In view of this deficiency and the claim amendments, the Applicant  
22 respectfully requests that the Patent Office remove the Section 103 rejection from  
23 Claim 1.

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1       **Claim 2** recites a method according to claim 1, wherein the laser beam  
2       directed and returned to the facet of the scanning reflector is separate from a  
3       modulated data beam.

4       The Applicant has amended Claim 2 to more particularly point out the  
5       claimed subject matter. In particular, the Applicant has indicated that the laser  
6       beam directed and returned to the facet of the scanning reflector is separate from a  
7       modulated data beam. This is clearly shown by the Applicant's specification, e.g.  
8       at Fig. 2, where 122 is separate from 112/132. Referring to the Takada reference,  
9       e.g. at Fig. 1, it can be seen that the laser beam directed toward the facet of the  
10       scanning reflector is combined with the modulated beam. These two beams only  
11       separate *after* leaving device 12. Accordingly, the elements recited by Claim 2, as  
12       amended, are not taught or suggested by Takada or Saito references, and the  
13       Applicant respectfully requests that the Section 103 rejection of this claim be  
14       removed.

15       **Claim 3** recites a method according to claim 2, wherein the modulated  
16       data beam reflects only once on the facet of the scanning reflector.

17       The Applicant has amended Claim 3 to more particularly point out the  
18       claimed subject matter. In particular, the Applicant has indicated that the  
19       modulated data beam reflects only once on the facet of the scanning reflector. For  
20       example, Fig. 2 of the Applicant's specification shows 122 reflecting only once.  
21       Referring to the Takada reference, e.g. at Fig. 1, it can be seen that the modulated  
22       laser beam reflects twice on the scanning reflector. In Takada, the two beams (the  
23       modulated beam which contacts 14 and the signal beam which contacts the sensor)  
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1 are both combined. (Refer to Takada at column 12, lines 24—33, wherein Takada  
2 explains how the beam reflects off two different facets, and then splits at 12 to be  
3 a modulated beam and a sync beam.) Accordingly, the elements recited by Claim  
4 3, as amended, are not taught or suggested by Takada or Saito references, and the  
5 Applicant respectfully requests that the Section 103 rejection of this claim be  
6 removed.

7       **Claim 4 recites a method according to claim 2, wherein a modulated data**  
8 **beam reflects once off the facet of the scanning reflector from which the laser**  
9 **beam reflected twice.**

10       The Applicant has amended Claim 4 to more particularly point out the  
11 claimed subject matter. In particular, the Applicant has indicated that a modulated  
12 data beam reflects once off the facet of the scanning reflector from which the  
13 synchronizing laser beam reflected twice. This feature is clearly seen in Fig. 2 and  
14 other locations of the Applicant's specification. Thus, the Applicant gains the  
15 benefit of reflecting the synchronizing beam off the facet twice, for extra detection  
16 resolution, without the drawbacks of reflecting the modulate beam off the  
17 scanning reflector twice. Referring to the Takada reference, e.g. at Fig. 1, it can  
18 be seen that the combined modulated and sync laser beams reflects twice on the  
19 scanning reflector. (Again, refer to Takada at column 12, lines 24—33, wherein  
20 Takada explains how the beam reflects off two different facets, and this splits at  
21 12 to be a modulated beam and a sync beam.) Accordingly, the elements recited  
22 by Claim 4, as amended, are not taught or suggested by the Takada and Saito  
23 references, and the Applicant respectfully requests that the Section 103 rejection  
24 of this claim be removed.

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1       **Claims 2—10** depend from Claim 1 and are allowable as depending from  
2 an allowable base claim. These claims are also allowable for their own recited  
3 features that, in combination with those recited in Claim 1, are neither disclosed  
4 nor suggested in references of record, either singly or in combination with one  
5 another.

6       **Claim 11** recites a laser scanning system, comprising:

7       • a laser beam source modulated by data;  
8       • a scanning reflector;  
9       • at least one reflector positioned to receive light from the source that  
10      has been reflected from a facet of the scanning reflector **back**  
11      **toward the same facet of the scanning reflector;**  
12      • a detector adapted to detect the laser beam after reflecting at least  
13      **twice from the same facet of the scanning reflector;** and  
14      • a controller adapted to control timing of the data, including a start of  
15      a scan of the scanning system, responsive to detection of light by the  
16      detector.

17       The Applicant observes Claim 11 was rejected using the same argument as  
18      Claim 1, and has been amended in a manner similar to Claim 1. Accordingly, the  
19      Applicant submits that Claim 11 is allowable for at least the reasons that Claim 1  
20      is allowable, and the argument set forth with respect to Claim 1 is incorporated  
21      herein by reference.

22       **Claims 12—17** depend from Claim 11 and are allowable as depending  
23      from an allowable base claim. These claims are also allowable for their own  
24      recited features that, in combination with those recited in Claim 11, are neither  
25      disclosed nor suggested in references of record, either singly or in combination  
26      with one another. For example, several of these claims are allowable for at least  
27      the reasons discussed with respect to Claims 2—4.

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1           **Claim 18 recites a laser scanning system, comprising:**

2           • a laser beam source;  
3           • a scanning reflector;  
4           • a detector adapted to detect light reflected at least twice from a  
5            same facet of the scanning reflector; and  
6           • a controller adapted to control the timing of the scanning system,  
7            including a start of scan of the scanning system, responsive to the  
8            detection of light by the detector;  
9           • **wherein a modulated data beam created by the laser beam**  
10           **source reflects only once on the facet of the scanning reflector.**

11           The Applicant observes Claim 18 was rejected using the same argument as  
12           Claim 1, and has been amended in a manner similar to Claim 1. Additionally, as  
13           seen in the arguments above, Takada and Saito fail to teach or suggest that a  
14           modulated beam reflects only once, while the sync beam reflects twice.  
15           Accordingly, the Applicant submits that Claim 18 is allowable for at least the  
16           reasons that Claim 1 is allowable, and the argument set forth with respect to Claim  
17           1 is incorporated herein by reference.

18           Claims 19—21 depend from Claim 18 and are allowable as depending  
19           from an allowable base claim. These claims are also allowable for their own  
20           recited features that, in combination with those recited in Claim 18, are neither  
21           disclosed nor suggested in references of record, either singly or in combination  
22           with one another.

23           **Conclusion**

24           The arguments presented above are intended to present the Applicant's  
25           position clearly, but should not be considered exhaustive. Accordingly, the  
26           Applicant reserves the right to present additional arguments to clarify the  
27           Applicant's position further. Moreover, the Applicant reserves the right to

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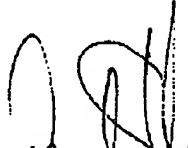
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1 challenge the status as prior art of one or more documents cited in the Office  
2 Action.

3 The Applicant submits that the claims as presented are in condition for  
4 allowance. Accordingly, the Applicant respectfully requests that a Notice of  
5 Allowability be issued. If the Patent Office's next anticipated action is not the  
6 issuance of a Notice of Allowability, the Applicant respectfully requests that the  
7 undersigned attorney be contacted to schedule an interview.

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10 Respectfully Submitted,

11  
12 Dated: 13 April 2006

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